

WHAT IS CLAIMED IS:

- 1 1. A method of retransmitting a data cell, comprising:
2 providing a transmit queue having a head and a tail;
3 providing a retransmit queue having a head and a tail;
4 transmitting a first data cell from the head of the transmit queue;
5 inserting the first data cell at the tail of the retransmit queue; and
6 retransmitting a second data cell at the head of the retransmit
7 queue.
- 1 2. The method of claim 1, further comprising:
2 marking the first data cell as requiring receive acknowledgement.
- 1 3. The method of claim 1, further comprising:
2 determining if the second data cell has timed out.
- 1 4. The method of claim 1, further comprising:
2 determining if the second data cell has exceeded its predetermined
3 number of retransmissions.
- 1 5. The method of claim 1, further comprising:
2 reinserting the second data cell at the tail of the retransmit queue.
- 1 6. The method of claim 1, further comprising:
2 discarding the second data cell because it has exceeded its
3 predetermined number of retransmissions or it has timed out.
- 1 7. The method of claim 1, further comprising:
2 reinserting the first data cell at the tail of the recirculation queue
3 after the first data cell has been transmitted from the head of the retransmission
4 queue.

1 8. A communications system having a transmission reliability
2 subsystem, the reliability subsystem comprising:
3 a means for providing a transmit queue having a head and a tail;
4 a means for providing a retransmit queue having a head and a tail;
5 a means for transmitting a first data cell from the head of the
6 transmit queue;
7 a means for inserting the first data cell at the tail of the retransmit
8 queue; and
9 a means for retransmitting a second data cell at the head of the
10 retransmit queue.

1 9. The communications system of claim 8, further comprising:
2 a means for marking the first data cell as requiring receive
3 acknowledgement.

1 10. The communications system of claim 8, further comprising:
2 a means for determining if the second data cell has timed out.

1 11. The communications system of claim 8, further comprising:
2 a means for determining if the second data cell has exceeded its
3 predetermined number of retransmissions.

1 12. The communications system of claim 8, further comprising:
2 a means for reinserting the second data cell at the tail of the
3 retransmit queue.

1 13. The communications system of claim 8, further comprising:
2 a means for discarding the second data cell because it has
3 exceeded its predetermined number of retransmissions or it has timed out.

1 14. The communications system of claim 8, further comprising:

2 a means for reinserting the first data cell at the tail of the
3 recirculation queue after the first data cell has been transmitted from the head of
4 the retransmission queue.

1 15. A communications system, comprising:
2 a plurality of transceiver nodes configured to utilize a time division
3 multiple access structure to communicate between the transceiver nodes; and
4 the time division multiple access structure including a plurality of
5 time slots during which the transceiver nodes are configured to communicate
6 data cells, the data cells being transmitted from a transmission queue and a
7 retransmission queue,
8 wherein cells transmitted from the transmission queue are
9 selectively placed sequentially into the retransmission queue for later
10 retransmission.

1 16. The communications system of claim 15, wherein the cell
2 transmitted from the transmission queue has been marked for receive
3 acknowledgement.

1 17. The communications system of claim 15, wherein the cell at a head
2 of the retransmission queue is discarded if timed out.

1 18. The communications system of claim 15, wherein the cell at a head
2 of the retransmission queue has matched its predetermined number of
3 retransmissions.

1 19. The communications system of claim 15, wherein the cell at a head
2 of the retransmission queue is retransmitted and then placed at a tail of the
3 retransmission queue.

- 1 20. The communications system of claim 15, wherein each packet
- 2 includes a plurality of cells.